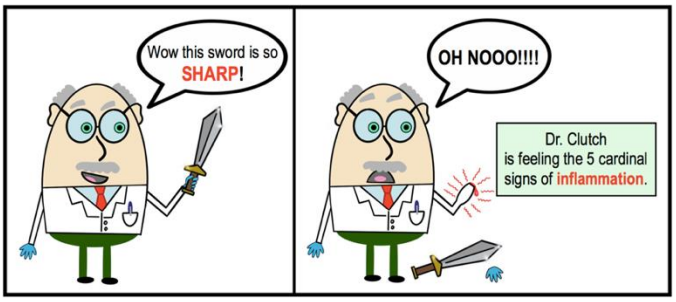
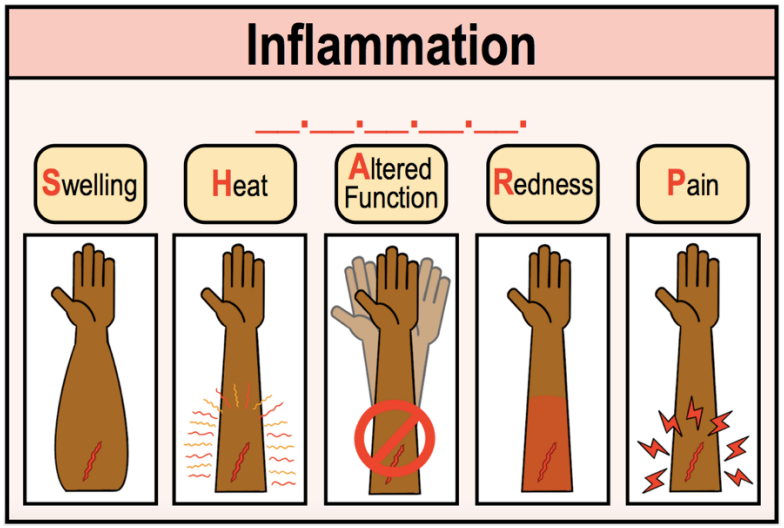
CONCEPT: INTRODUCTION TO INFLAMMATION

●*Recall:* **Inflammation** is a coordinated set of events that occur when the body detects an *infection* or *tissue damage*.

●There are _____ cardinal signs of inflammation ("SHARP"):

1) ___welling 2) ___eat 3) ___ltered function 4) ___edness 5) ___ain





Types of Inflammatory Responses

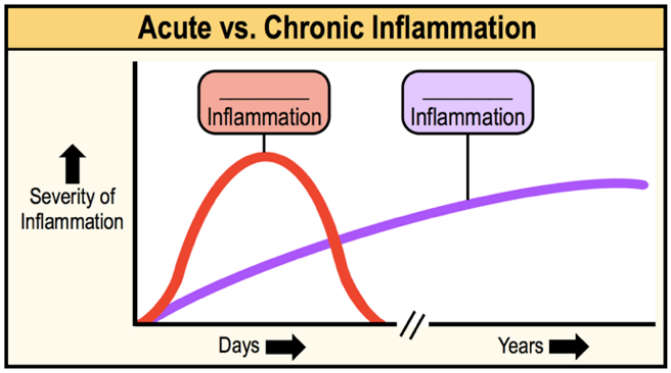
●The 2 types of inflammatory responses are:

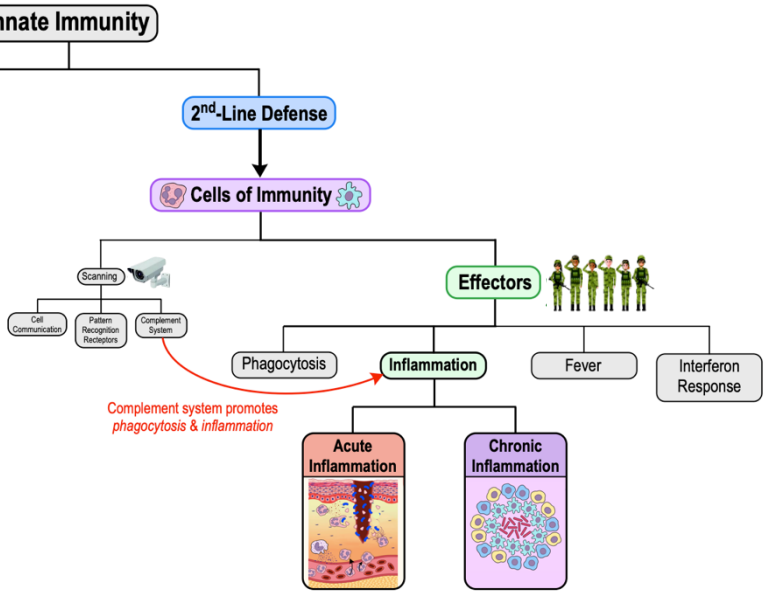
1) Acute Inflammation: _____-term immune response; symptoms develop rapidly & last a short time (days).

□ Examples include inflammation due to *common cold, flu, headache, & joint pain*.

2) Chronic Inflammation: _____-term immune response; symptoms develop slowly & last a long time (years).

□ Examples include inflammation due to *heart disease, cancer, Chron's disease, & arthritis.*





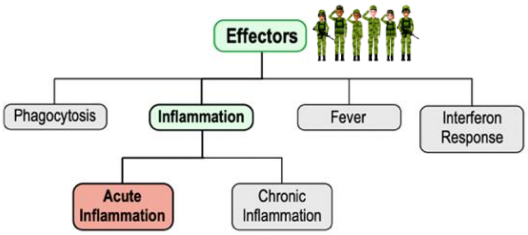
CONCEPT: INTRODUCTION TO INFLAMMATION

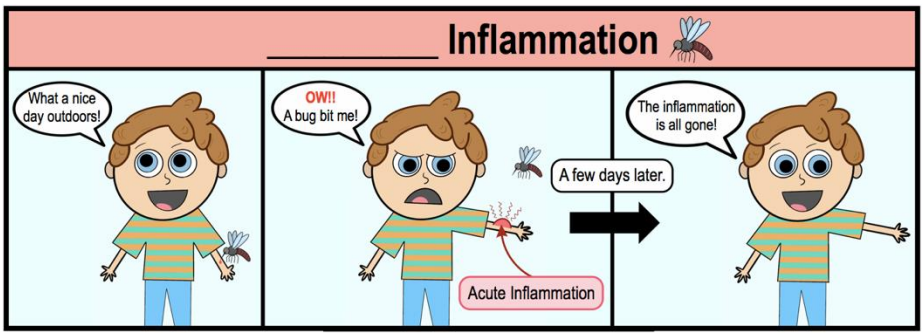
Acute Inflammation

●*Recall:* **Acute Inflammation:** *short*-term immune response where symptoms develop _____ & last a short time.

□ Characterized by an abundance of _____ in the infected/damaged area.

□ Goal is to *quickly* recruit immune cells to location of damage/infection (neutrophils are recruited _____).





PRACTICE: Which of the following answers is an inflammatory mediator that stimulates vasodilation allowing immune cells to enter the site of infection?

a) Collagen.
b) Serotonin.
c) C3b protein.
d) Histamine.

PRACTICE: Which of the following scenarios would *not* result in an episode of acute inflammation?

a) An individual having rheumatoid arthritis, an inflammatory disease that degrades the joints over a lifetime.
b) An individual having a painful sensation around a vaccine injection site for a few days after vaccination.
c) An individual having a swollen ankle for a week after falling down a set of stairs.
d) An individual having a painful, red wound for a few days after being scratched by a cat.

CONCEPT: INTRODUCTION TO INFLAMMATION

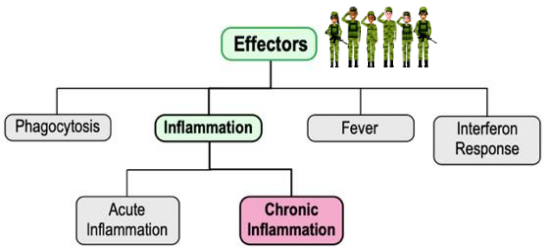
Chronic Inflammation

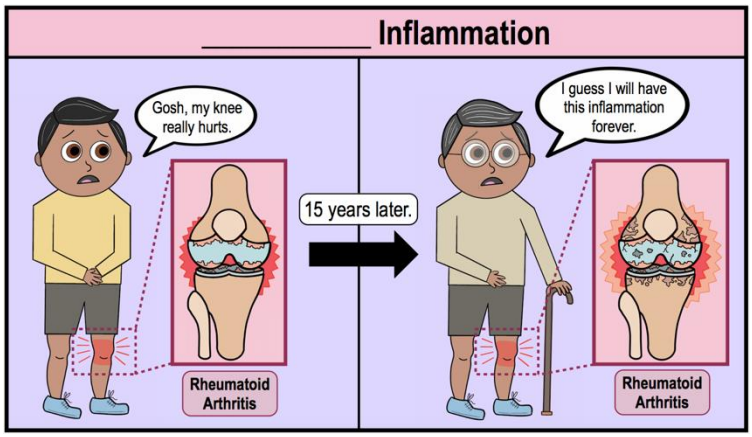
● *Recall:* **Chronic Inflammation** is *long*-term immune response; symptoms develop _____ & last a long time (years).

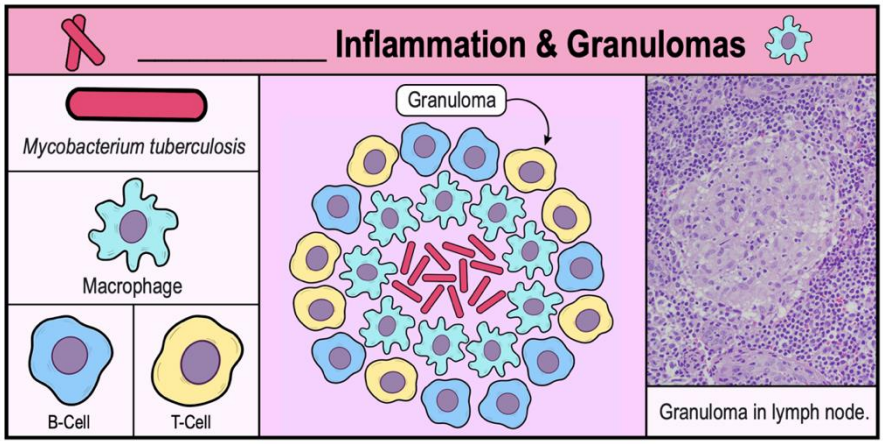
□ Characterized by an abundance of _____, *giant cells* & *T lymphocytes*.

□ Macrophages, giant cells, & T lymphocytes accumulate to form _____.

□ **Granulomas:** concentrated groups of cells that *retain* (or wall-off) microbes that can _____ be destroyed.







PRACTICE: A scientist is analyzing the cells from a granuloma tissue sample. Which type of immune cell is the scientist *least* likely to find in this sample?

a) T cells. b) Macrophages. c) Neutrophils. d) Giant cells.

PRACTICE: The disease tuberculosis (TB) is a serious bacterial infection characterized by granulomas typically found in the lungs. What characteristics would a TB granuloma have?

a) A large mass of immune cells surrounding the *Mycobacterium tuberculosis* thus stopping the spread of bacteria.

b) A region of scar tissue created by *Mycobacterium tuberculosis*.

c) A region of tissue growth to heal the damage caused by *Mycobacterium tuberculosis*.